WHAT IS CLAIMED IS :

1. A radial copolymer prepared by coupling a terminal of a living polymer using a mixed coupling agent comprising a mixture of a multi-reactive polysiloxane represented by the following formula 1 and a tin halide represented by the following formula 2, wherein living polymer being prepared by copolymerizing a conjugated diene monomer and a vinyl aromatic monomer in the presence of an organo lithium catalyst in a hydrocarbon solvent and a Lewis base:

Formula 1

$(X)_a(R)_bY\text{-}(CH_2)_c\text{-}Si(R_1)(R_2)\text{-}[O\text{-}Si(R_1)(R_2)]_d\text{-}(CH_2)_c\text{-}Y(X)a(R)_b$

wherein X is a halogen atom such as F, Cl, Br or I; Y is Si or C; R is a lower alkyl group containing less than 20 carbon atoms, such as methyl, ethyl or propyl, or $(X)_e(R_3)_fBz$; R_1 and R_2 are the same as R, hydrogen, halogen-substituted alkyl group, or a halogen-substituted silane group; R_3 is a lower alkyl group containing less than 20 carbon atoms, hydrogen, halogen-substituted alkyl group, or a halogen-substituted silane group; a is 1 to 3, and b is 0 to 2, wherein a+b = 3; c is 1 to 10; d is 1 to 100; e and f are independently 0 to 5, wherein e+f = 5; and Bz is a benzene ring;

Formula 2

$Sn(R)_{4-n}(X)_n$

wherein R is a lower alkyl group containing less than 20 carbon atoms, such as methyl, ethyl or propyl; X is a halogen atom such as F, Cl, Br or I; and n is an integer from 1 to 3.

2. The radial copolymer as claimed in claim 1, wherein the conjugated diene monomer includes 1,3-butadiene or isoprene, and the vinyl aromatic monomer includes styrene or alpha-methyl styrene.

3. The radial copolymer as claimed in claim 1, wherein the multi-reactive polysiloxane represented by the formula 1 is at least one selected from the group

consisting of α,ω-bis(2-trichlorosilylethyl)polydimethylsiloxane, α,ω-bis(2-dichloromethylsilylethyl)polydimethylsiloxane, and α,ω-bis(2-chlorodimethylsilylethyl)polydimethylsiloxane.

4. The radial copolymer as claimed in claim 1, wherein the tin halide represented by the formula 2 is a trimethyl tin chloride, or tin tetrachloride.

5. The radial copolymer as claimed in claim 1, wherein the Lewis base is selected from tetrahydrofuran, N,N,N,N-tetramethylethylenediamine (TMEDA), di-n-propyl ether, di-isopropyl ether, di-n-butyl ether, ethyl butyl ether, triethylene glycol, 1,2-dimethoxybenzene, trimethylamine, or triethylamine.

6. The radial copolymer as claimed in claim 1, wherein the Lewis base is an amount of 50 to 45,000 ppm with respect to the hydrocarbon solvent.

7. The radial copolymer as claimed in claim 5, wherein the Lewis base is an amount of 50 to 45,000 ppm with respect to the hydrocarbon solvent.

8. The radial copolymer as claimed in claim 1, wherein the mixed coupling agent comprises the multi-reactive polysiloxane and the tin halide at a mole ratio of 5:95 to 95:5.

9. The radial copolymer as claimed in claim 1, wherein the mixed coupling agent is an amount of 0.01 to 3 mmol with respect to the organo lithium catalyst.

10. The radial copolymer as claimed in claim 8, wherein the mixed coupling agent is an amount of 0.01 to 3 mmol with respect to the organo lithium catalyst.

11. The radial copolymer as claimed in claim 1, wherein the conjugated diene monomer and vinyl aromatic monomer in the hydrocarbon solvent is 5 to 40 wt.%, wherein a content of the conjugated diene monomer is 50 to 95 wt.% and a content of the

vinyl aromatic monomer is 5 to 50wt.%.

12. The radial copolymer as claimed in claim 1, wherein the organo lithium catalyst is included in an amount of 0.1 to 5 mmol per 100 g of the conjugated diene monomer and the vinyl aromatic monomer.

13. The radial copolymer as claimed in claim 1, wherein the hydrocarbon solvent is selected from n-hexane, n-heptane, iso-octane, cyclohexane, methylcyclopentane, benzene, or toluene.

14. The radial copolymer as claimed in claim 1, wherein the radial copolymer has a Mooney viscosity(ML_{1+4}@100°C) of 30 to 150, the conjugated diene monomer has an amount of 10 to 90 weight percent of vinyl content.

15. A tire tread formed from the radial copolymer of claim 1.